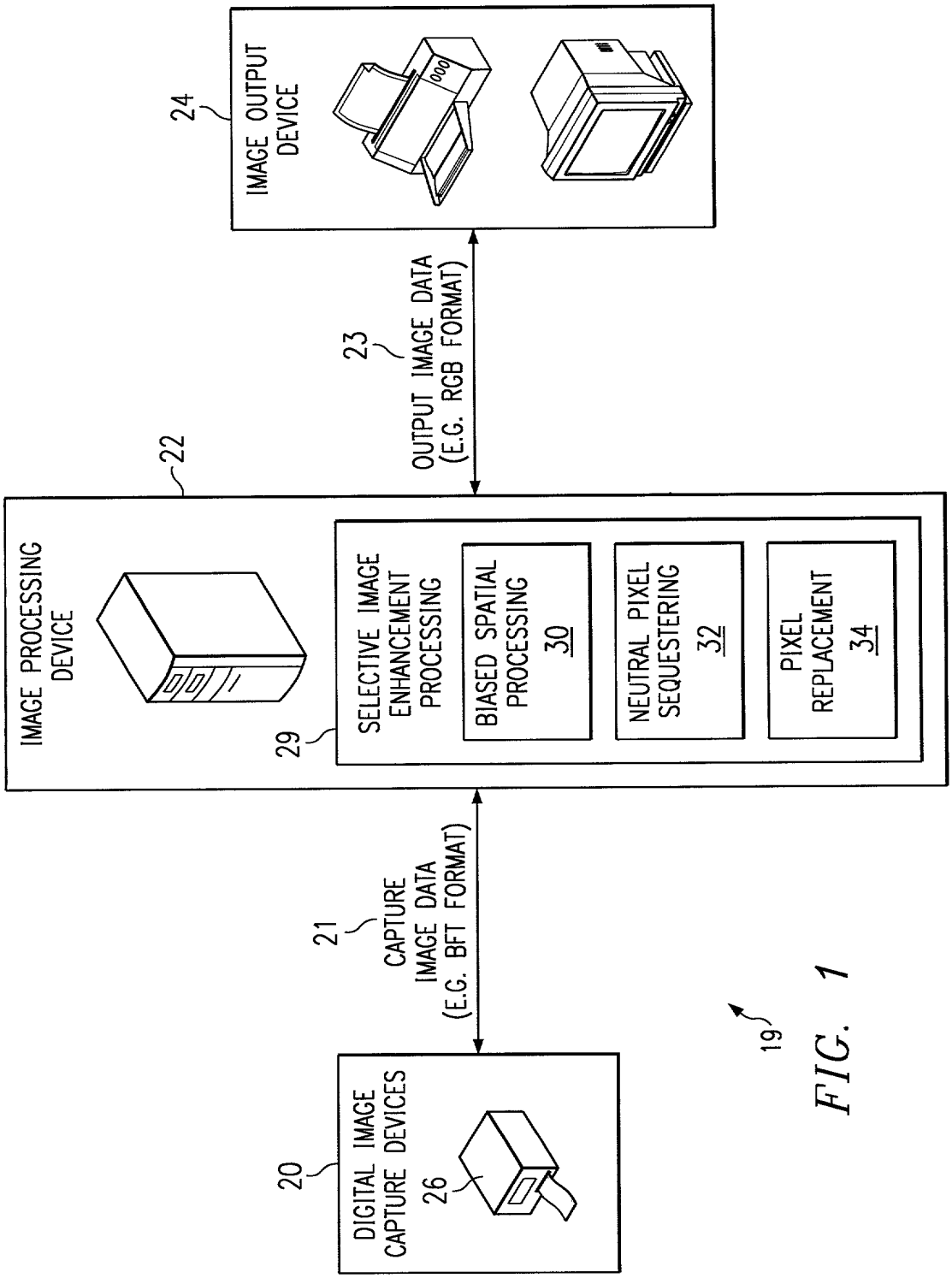
24
IMAGE OUTPUT DEVICE
23
OUTPUT IMAGE DATA (E.G. RGB FORMAT)
22
IMAGE PROCESSING DEVICE
29
SELECTIVE IMAGE ENHANCEMENT PROCESSING
BIASED SPATIAL PROCESSING 30
NEUTRAL PIXEL SEQUESTERING 32
PIXEL REPLACEMENT 34
21
CAPTURE IMAGE DATA (E.G. BFT FORMAT)
20
DIGITAL IMAGE CAPTURE DEVICES
26
19

FIG. 1

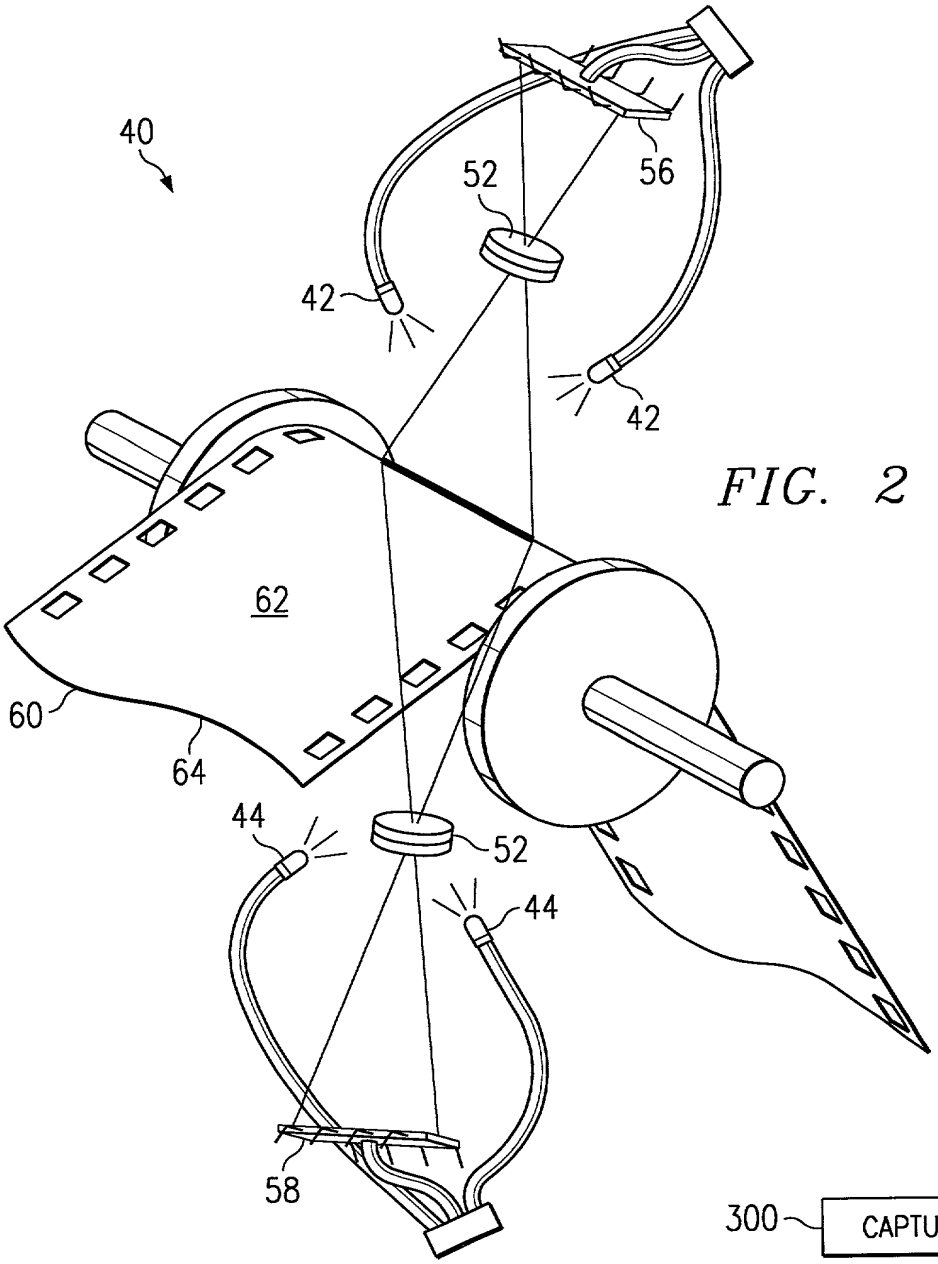
40
52
56
42
42
62
60
64
44
52
44
58

FIG. 2

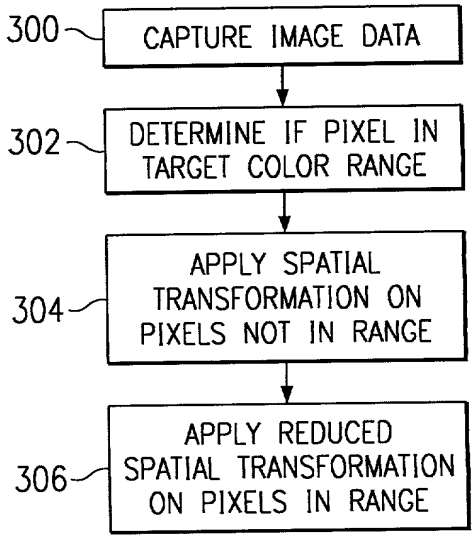
300
CAPTURE IMAGE DATA
302
DETERMINE IF PIXEL IN TARGET COLOR RANGE
304
APPLY SPATIAL TRANSFORMATION ON PIXELS NOT IN RANGE
306
APPLY REDUCED SPATIAL TRANSFORMATION ON PIXELS IN RANGE

FIG. 3

400 PIXEL NUMBER	408 COLOR	402 BACK	404 FRONT	406 THROUGH
1	a	b_a	f_a	t_a
2	a	b_a	f_a	t_a
3	b	b_b	f_b	t_b
4	b	b_b	f_b	t_b
5	b	b_b	f_b	t_b
6	c	b_c	f_c	t_c
7	c	b_c	f_c	t_c
8	c	b_c	f_c	t_c
9	b	b_b	f_b	t_b
10	d	b_d	f_d	t_d

FIG. 4A

400 PIXEL NUMBER	408 COLOR	402 BACK	404 FRONT	406 THROUGH
1	a	$b_a + \Delta_1$	$f_a + \Delta_2$	$t_a + \Delta_3$
2	a	$b_a + \Delta_4$	$f_a + \Delta_5$	$t_a + \Delta_6$
3	b	b_b	f_b	t_b
4	b	b_b	f_b	t_b
5	b	b_b	f_b	t_b
6	c	$b_c + \Delta_7$	$f_c + \Delta_8$	$t_c + \Delta_9$
7	c	$b_c + \Delta_{10}$	$f_c + \Delta_{11}$	$t_c + \Delta_{12}$
8	c	$b_c + \Delta_{13}$	$f_c + \Delta_{14}$	$t_c + \Delta_{15}$
9	b	b_b	f_b	t_b
10	d	$b_d + \Delta_{16}$	$f_d + \Delta_{17}$	$t_d + \Delta_{18}$

FIG. 4b

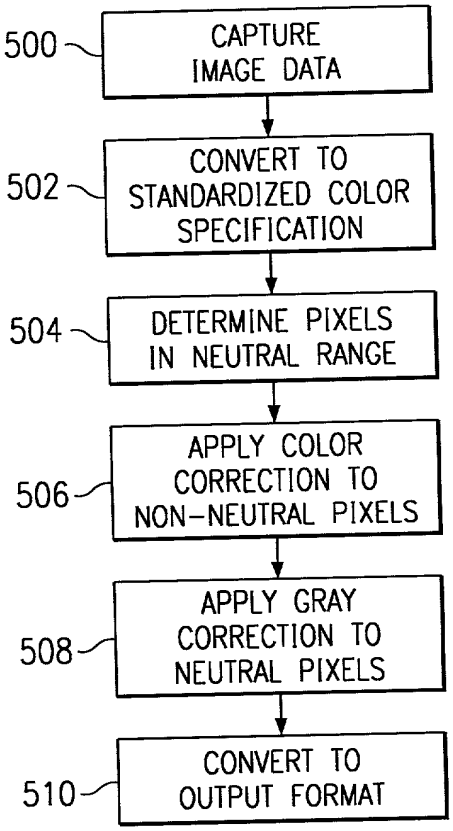
500
CAPTURE IMAGE DATA
502
CONVERT TO STANDARDIZED COLOR SPECIFICATION
504
DETERMINE PIXELS IN NEUTRAL RANGE
506
APPLY COLOR CORRECTION TO NON-NEUTRAL PIXELS
508
APPLY GRAY CORRECTION TO NEUTRAL PIXELS
510
CONVERT TO OUTPUT FORMAT

FIG. 5

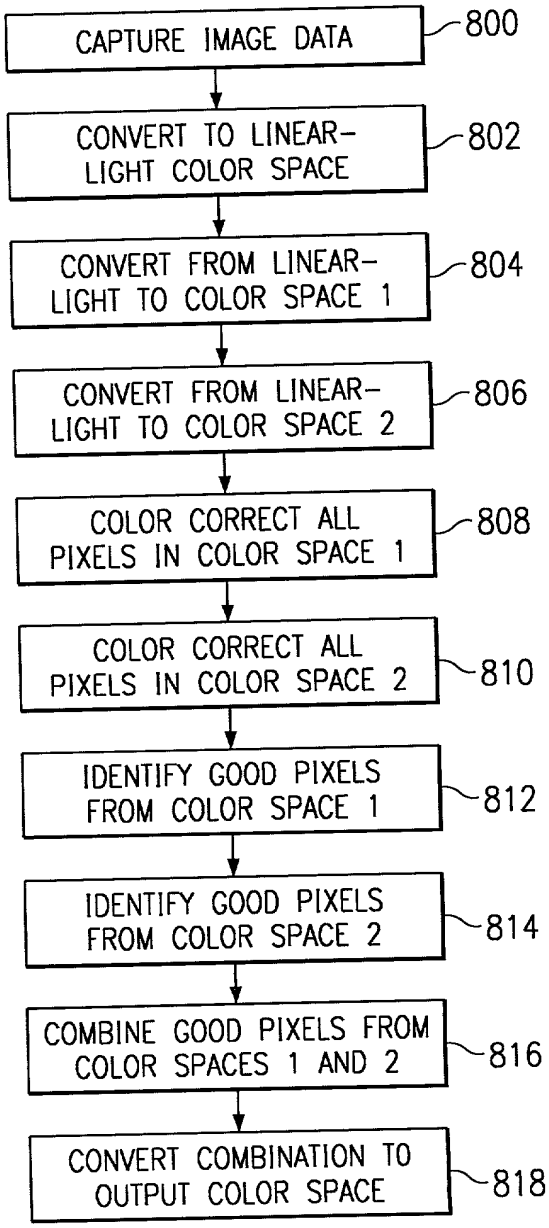
CAPTURE IMAGE DATA
800
CONVERT TO LINEAR-LIGHT COLOR SPACE
802
CONVERT FROM LINEAR-LIGHT TO COLOR SPACE 1
804
CONVERT FROM LINEAR-LIGHT TO COLOR SPACE 2
806
COLOR CORRECT ALL PIXELS IN COLOR SPACE 1
808
COLOR CORRECT ALL PIXELS IN COLOR SPACE 2
810
IDENTIFY GOOD PIXELS FROM COLOR SPACE 1
812
IDENTIFY GOOD PIXELS FROM COLOR SPACE 2
814
COMBINE GOOD PIXELS FROM COLOR SPACES 1 AND 2
816
CONVERT COMBINATION TO OUTPUT COLOR SPACE
818

FIG. 8

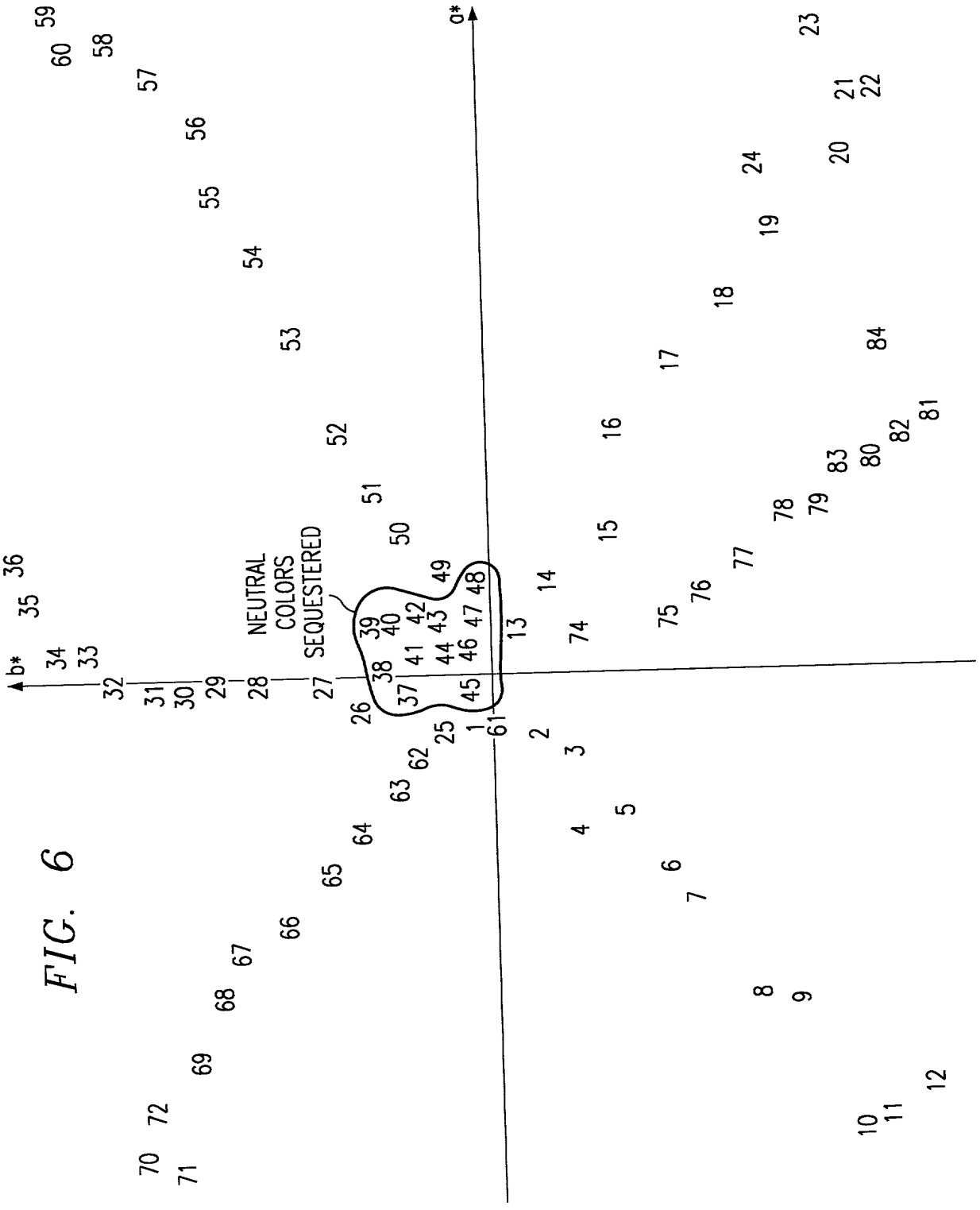

FIG. 6

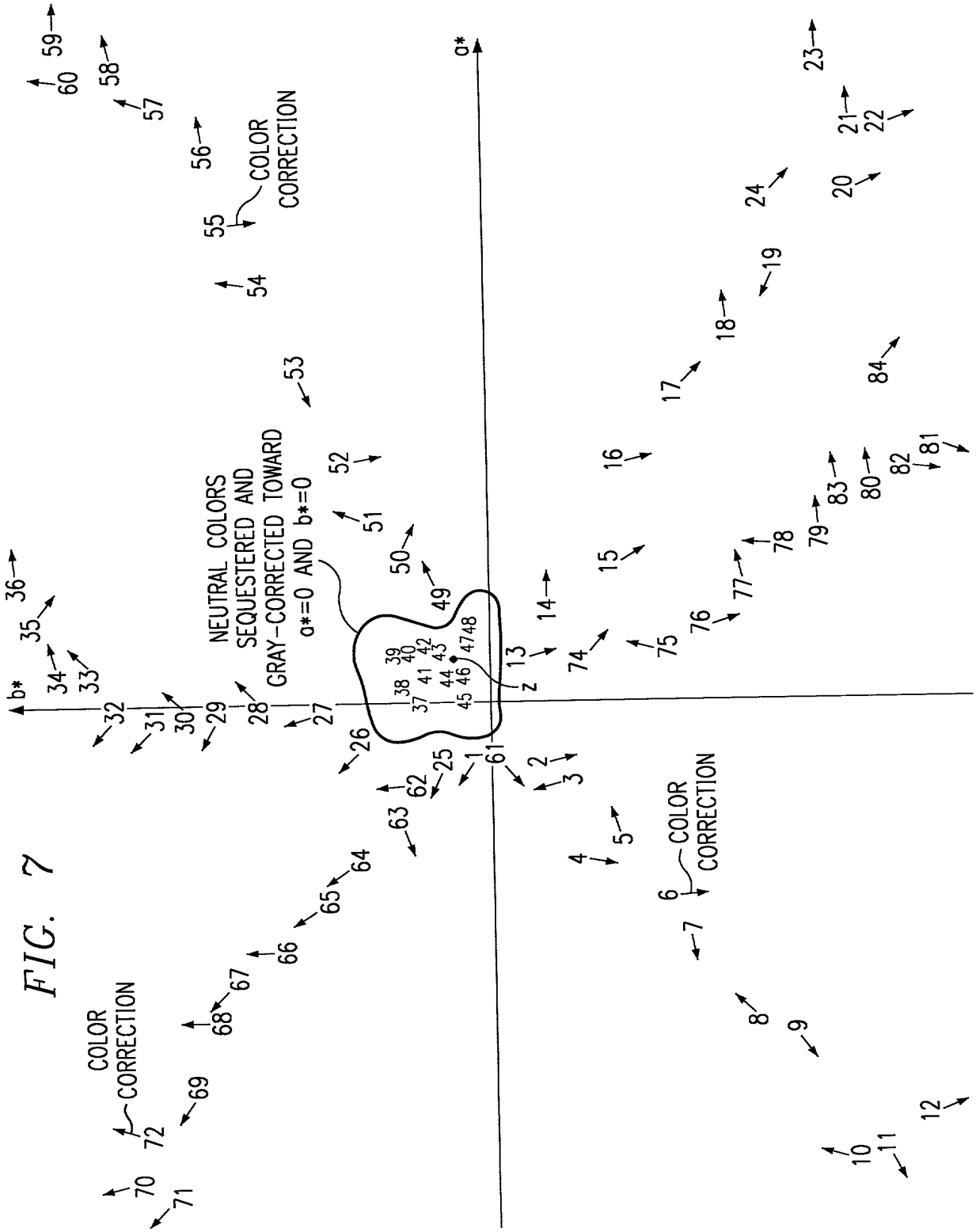
b*
a*
NEUTRAL COLORS SEQUESTERED AND GRAY-CORRECTED TOWARD a*=0 AND b*=0
COLOR CORRECTION
COLOR CORRECTION
COLOR CORRECTION
COLOR CORRECTION

FIG. 7

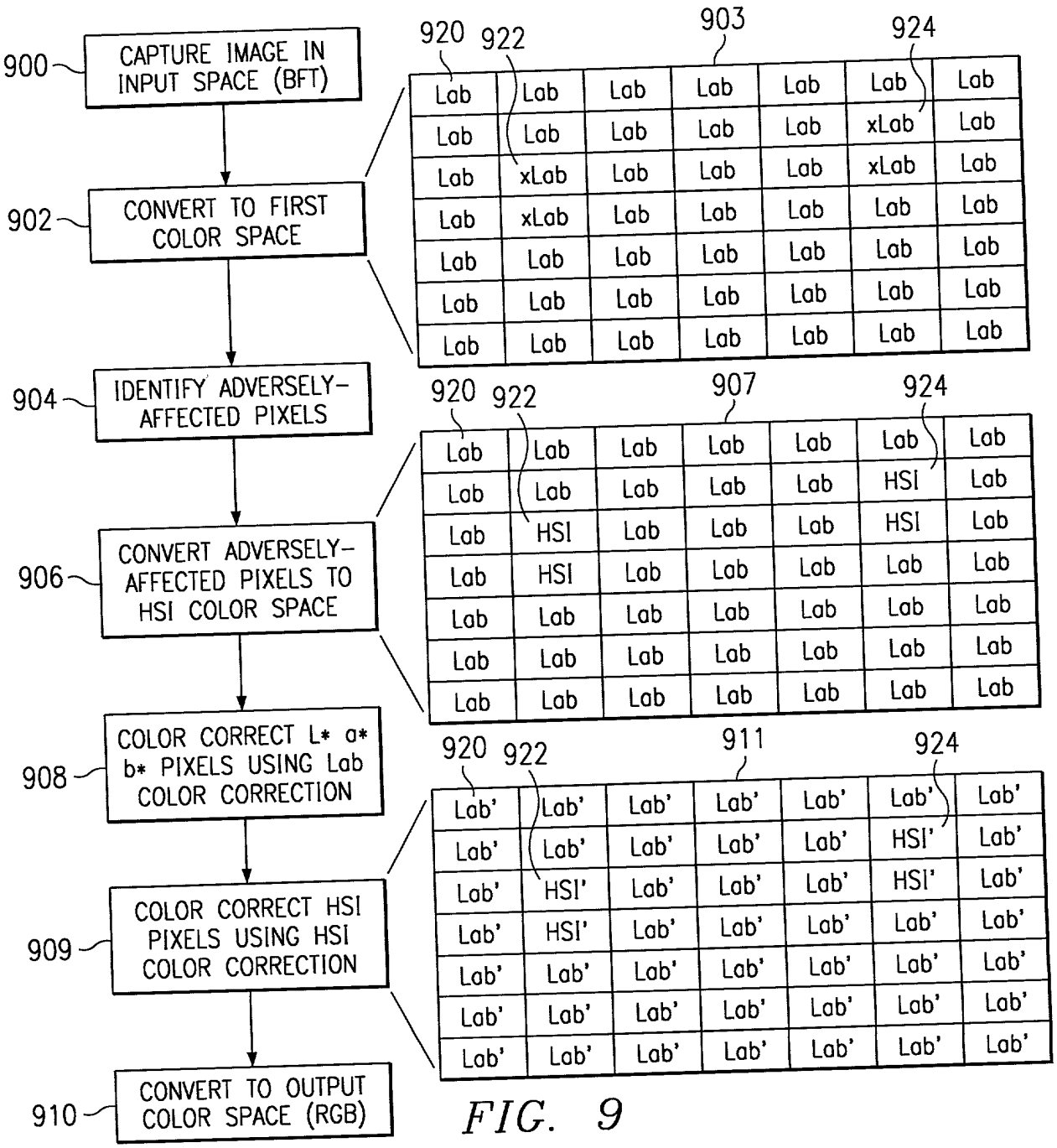

FIG. 9

1 (L_1, a_1, b_1)	2 (L_2, a_2, b_2)	3 (L_3, a_3, b_3)	4 (L_4, a_4, b_4)
5 (L_5, a_5, b_5)	6 (L_6, a_6, b_6)	7 (L_7, a_7, b_7)	8 (L_8, a_8, b_8)
9 (L_9, a_9, b_9)	10 (L_{10}, a_{10}, b_{10})	11 (L_{11}, a_{11}, b_{11})	12 (L_{12}, a_{12}, b_{12})
13 (L_{13}, a_{13}, b_{13})	14 (L_{14}, a_{14}, b_{14})	15 (L_{15}, a_{15}, b_{15})	16 (L_{16}, a_{16}, b_{16})
17 (L_{17}, a_{17}, b_{17})	18 (L_{18}, a_{18}, b_{18})	19 (L_{19}, a_{19}, b_{19})	20 (L_{20}, a_{20}, b_{20})

FIG. 10